



# **HHS Pandemic Influenza Preparedness Planning**

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## The Burden of Influenza

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### Seasonal Influenza

- Globally: 250,000 to 500,000 deaths each year
- In the United States each year:
  - 36,000 deaths
  - >200,000 hospitalizations
  - \$37.5 billion in economic costs from influenza and pneumonia

### Pandemic Influenza

- An ever-present threat

**Seasonal Influenza Preparedness**



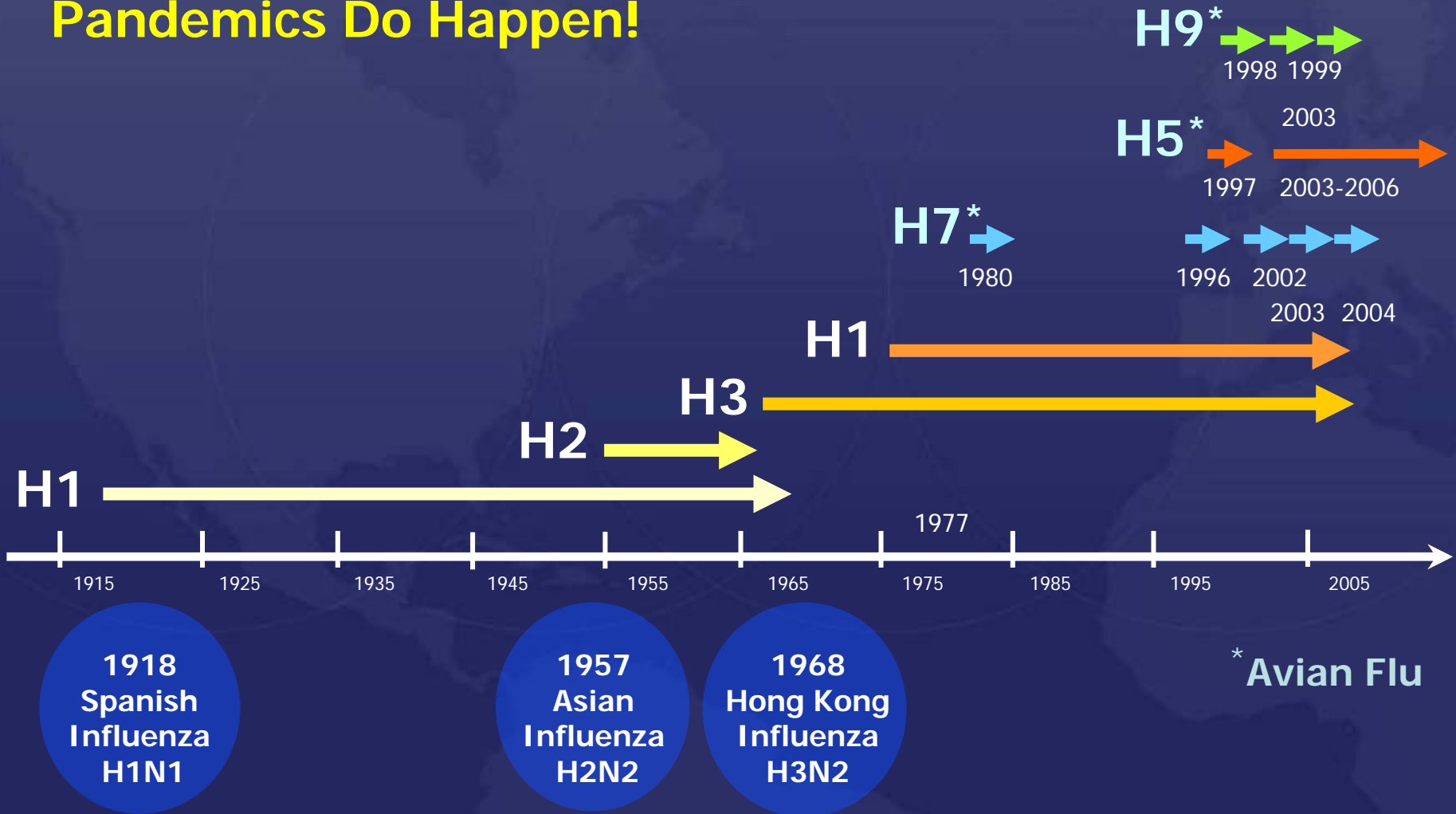
**Pandemic Influenza Preparedness**

# PANDEMIC PLANNING

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## Pandemics Do Happen!



# H5N1 Influenza Severe Pneumonia - Vietnam 2004



DAY 5

DAY 7

DAY 10

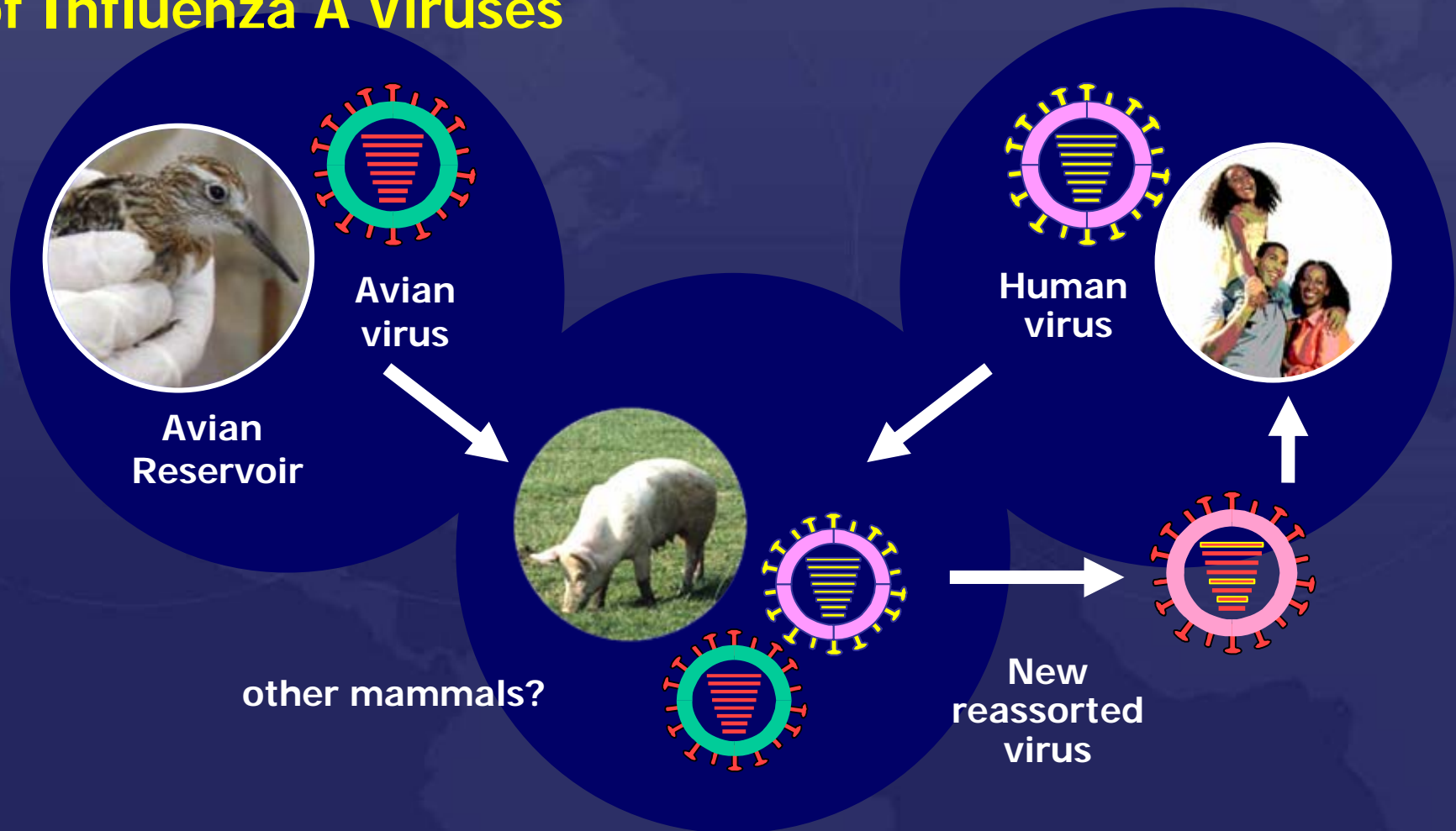


## Planning Assumptions: Health Care

- 50% or more of those who become ill will seek medical care
- Number of hospitalizations and deaths will depend on the virulence of the pandemic virus

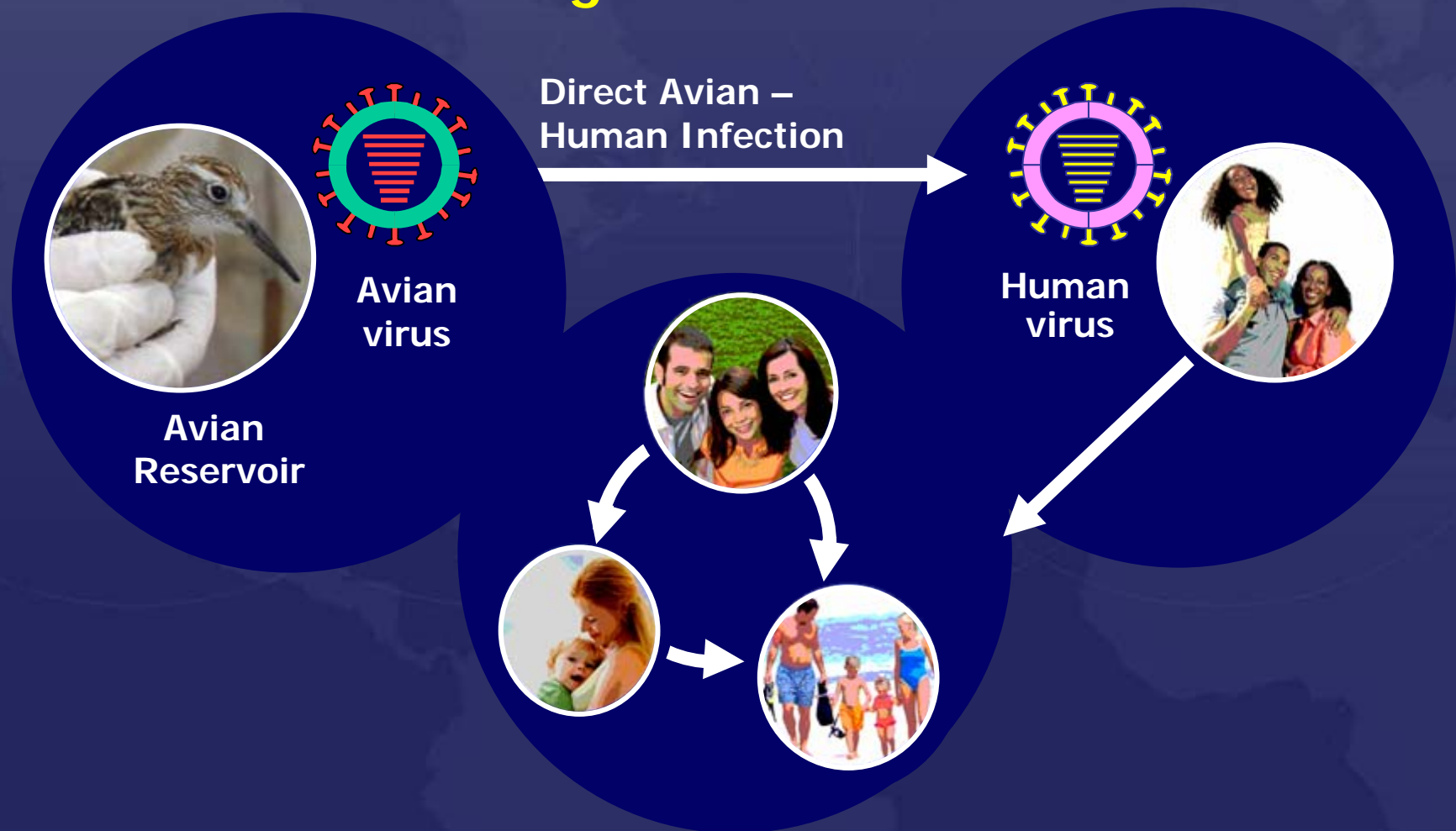
	Moderate (1957-like)	Severe (1918-like)
Illness	90 million (30%)	90 million (30%)
Outpatient medical care	45 million (50%)	45 million (50%)
Hospitalization	865,000	9, 900,000
ICU care	128,750	1,485,000
Mechanical ventilation	64,875	745,500
Deaths	209,000	1,903,000

## Pandemic Strain Emergence: Reassortment of Influenza A Viruses





## Pandemic Strain Emergence: Direct Infection





## Addressing Local Practices



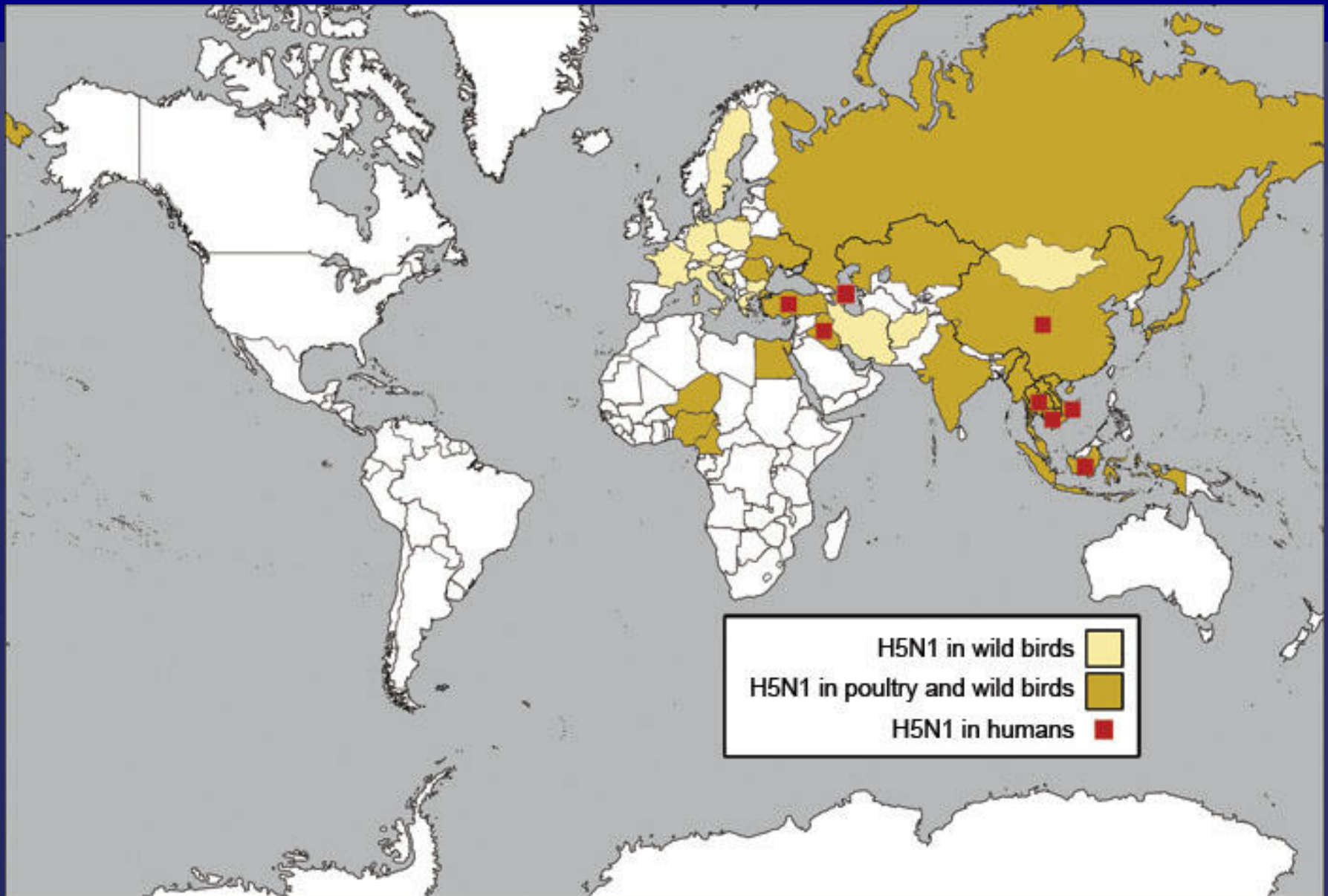


## Situation Report: Avian Influenza

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- ☒ Widespread and spreading prevalence in migratory birds; broad host range
- ☒ Continued outbreaks among domestic poultry
- ☒ Mammalian infection (cats, pigs, etc.) lethal
- ☒ Virus is evolving
- ☒ Sporadic human cases (184 reports to date)
  - Most in young and healthy
  - Case-fatality >50% (103 deaths)
  - Rare person-to-person transmission
- ☐ Sustained and rapid person-to-person transmission

# Nations With Confirmed Cases H5N1 Avian Influenza (March 21, 2006)



## Phases of a Pandemic: Where We Are Now

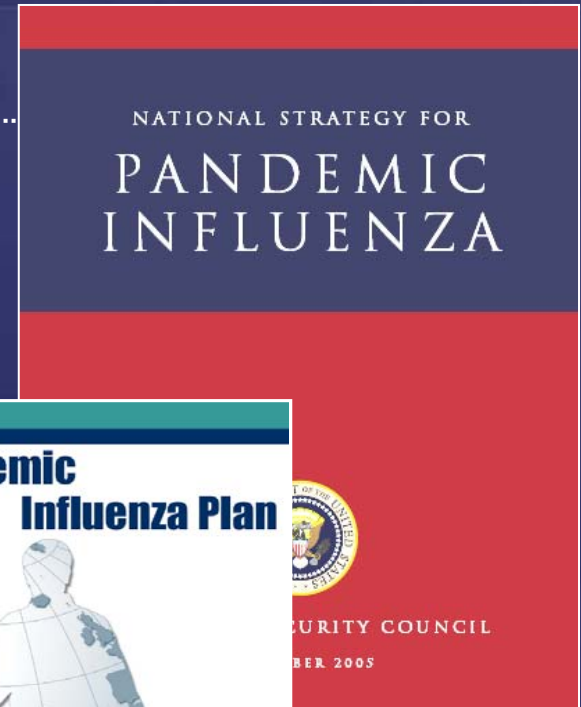
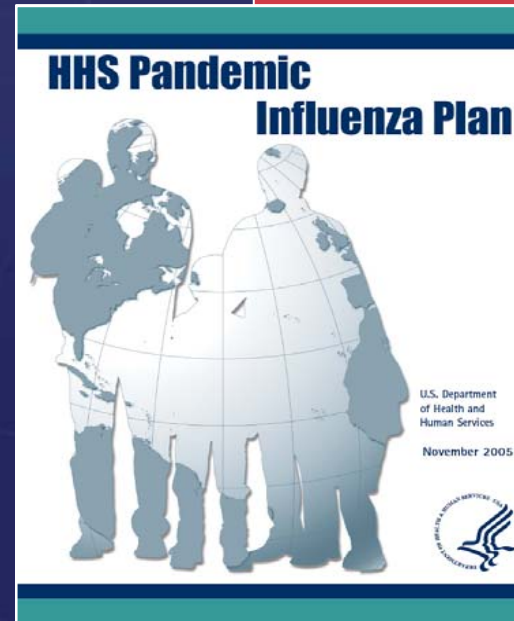
Inter-pandemic phase New virus in animals, no human cases	Low risk of human cases	1
	Higher risk of human cases	2
Pandemic alert New virus causes human cases	No or very limited human-to-human transmission	3
	Evidence of increased human-to-human transmission	4
	Evidence of significant human-to-human transmission	5
Pandemic	Efficient and sustained human-to-human transmission	6





## HHS Pandemic Influenza Plan

- Support the National Strategy for Pandemic Influenza
- Outlines planning assumptions and doctrine for health sector pandemic preparedness and response
- Public Health Guidance for State and Local Partners
- 11 Supplements with detailed guidance



## HHS Pandemic Influenza Doctrine: Saving Lives

- A threat anywhere is a threat everywhere!
- Quench first outbreaks: detect and contain where it emerges, if feasible
  - International collaborations
  - Frontline detection and response; rapid laboratory diagnosis
  - Isolation / quarantine / antiviral prophylaxis / social distancing / animal culling



## HHS Pandemic Influenza Doctrine: Saving Lives

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- Prevent or at least delay introduction into the United States
  - May involve travel advisories, exit or entry screening
  - For first cases, may involve isolation / short-term quarantine of arriving passengers





## HHS Pandemic Influenza Doctrine: Saving Lives

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- Slow spread, decrease illness and death, buy time
  - Antiviral treatment and isolation for people with illness
  - Quarantine for those exposed
  - Social distancing
  - Vaccine when available
  - Local decisions





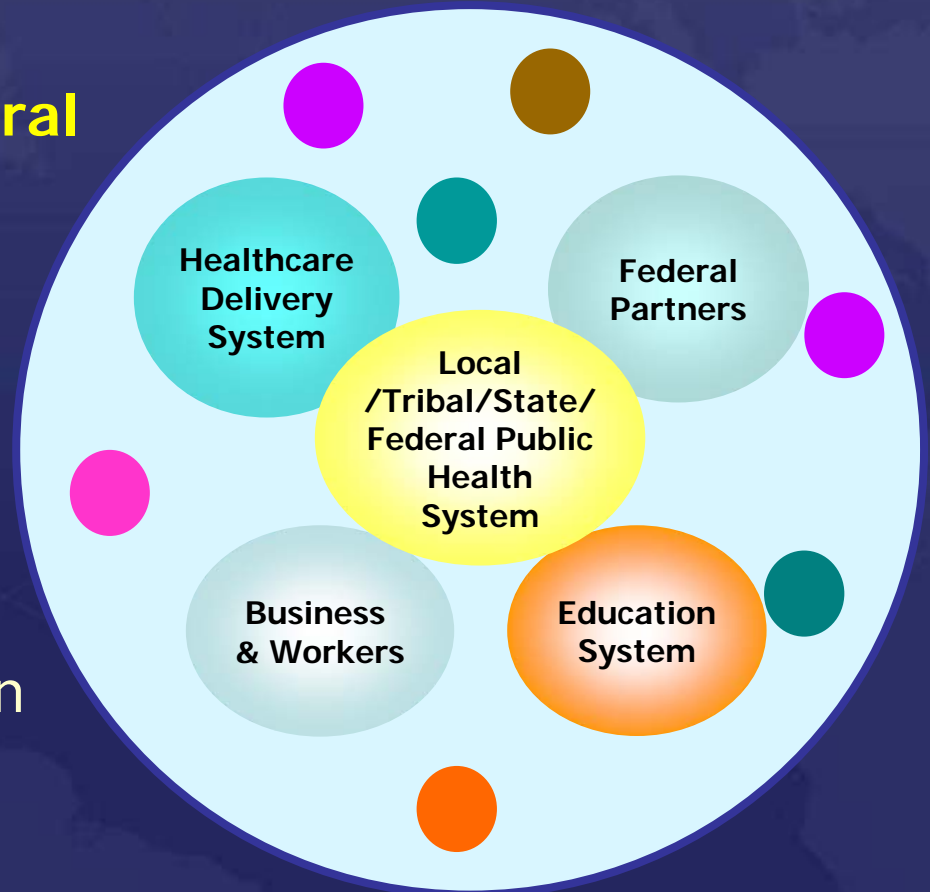
## HHS Pandemic Influenza Doctrine: Saving Lives

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- Clearly communicate to the public
  - Prepare people with information
  - Encourage action steps to prepare now
  - Provide updates when new information emerges
  - Use trusted messengers
  - Coordinate to ensure consistent messages
  - Address rumors and inaccuracies

## Our Health Protection Preparedness System A NETWORK of Shared Responsibility!

- **Local - tribal - state - federal**
- Domestic – international
- Public – private
- Multi-sector
- Non-partisan
- Animal – human
- Health protection – homeland security – economic protection



# PANDEMIC PLANNING

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## Countermeasures: Vaccines, Antivirals, and Medical Supplies



Strategic National Stockpile



## Challenges in Pandemic Vaccine Preparedness

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- Expand production of current (egg-based) vaccine
- Evaluate dose-sparing technology (adjuvants, intramuscular vs. intradermal route)
- Accelerate development of modern (non-egg) vaccines
- Target new antigens



## Vaccine Production and Use: U.S Seasonal Influenza

	Doses Produced (millions)	Doses Distributed (millions)
1980	15.7	12.4
1985	23.1	20.1
1990	32.3	28.3
1995	71.5	54.9
1999	77.2	76.8
2000	77.9	70.4
2001	87.7	77.7
2002	95.0	83.0
2003	86.9	83.1
2004	61.0	56.5
2005	86.0	> 80 so far



## Avian Influenza Vaccine Production

- Working with the National Institutes of Health
  - Current H5N1 Vaccine – 40 million doses being produced
  - Second Clade 2 Avian Influenza vaccine





## Antivirals and Medical Supplies: Influenza Treatments

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- Stockpile
  - Tamiflu: 5+ million treatment courses in Strategic National Stockpile (SNS) with 12.4 million treatment courses ordered
  - Tamiflu oral suspension: 97,000 courses in SNS with an additional 260,000 on order (arrival date to be determined)
  - Relenza: 84,000 courses in SNS with 1.75 million treatment courses ordered
- Strategy
  - Procure 81 million courses of antivirals
    - 6 million courses to be used to contain an initial U.S. outbreak
    - 75 million courses to treat 25 percent of U.S. population
- Accelerate development of promising new antiviral candidates



## Antivirals and Medical Supplies: Influenza Treatments

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- \$350 million appropriated in FY 2006 to upgrade state and local response capacity for pandemic influenza
  - \$100 million of the funding is scheduled to be awarded to all 50 states; 7 territories; Puerto Rico; Washington, D.C.; New York City; Chicago; and Los Angeles County and allocated according to a base + population formula
  - \$250 million will be awarded later this year. Application for funding is supplemental to current cooperative agreements



## State and Local Pandemic Influenza Planning Checklist

- ✓ Community Leadership and Networking
- ✓ Surveillance
- ✓ Health System Partnerships
- ✓ Infection Control and Clinical Care
- ✓ Vaccine Distribution and Use
- ✓ Antiviral Drug Distribution and Use
- ✓ Community Disease Control and Prevention
- ✓ Communications
- ✓ Workforce Support

STATE AND LOCAL PANDEMIC INFLUENZA PLANNING CHECKLIST			
<p>Planning for pandemic influenza is critical. To assist you in your efforts, the Department of Health and Human Services (HHS) and the Centers for Disease Control and Prevention (CDC) have developed the following checklist. It identifies important, specific activities you can do now to prepare. Many are specific to pandemic influenza, but a number also pertain to any public health emergency.</p> <p>This checklist is based on the HHS Pandemic Influenza Plan, Public Health Guidance for State and Local Partners, but is not intended to set forth mandatory requirements. Each state and local jurisdiction should determine for itself whether it is adequately prepared for disease outbreaks in accordance with its own laws and procedures.</p> <p>Community Preparedness Leadership and Networking [Preparedness Goal 1.—Increase the use and development of interventions known to prevent human illness from chemical, biological, radiological agents, and naturally occurring health threats.]</p>			
Completed	In Progress	Not Started	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Establish a Pandemic Preparedness Coordinating Committee that represents all relevant stakeholders in the jurisdiction (including governmental, public health, healthcare, emergency response, agriculture, education, business, communication, community-based, and faith-based sectors, as well as private citizens) and that is accountable for articulating strategic priorities and overseeing the development and execution of the jurisdiction's operational pandemic plan.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Deligate accountability and responsibility, capabilities, and resources for key stakeholders engaged in planning and executing specific components of the operational plan. Assume that the plan includes timelines, deliverables, and performance measures.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Within every state, clarify which activities will be performed at a state, local, or coordinated level, and indicate what role the state will have in providing guidance and assistance.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Assure that the operational plan for pandemic influenza response is an integral element of the overall state and local emergency response plan established under Federal Emergency Support Function 8 (ESF8): Health and medical service and compliant with National Incident Management System.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Address integration of state, local, tribal, territorial, and regional plans across jurisdictional boundaries in the plan.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Formalize agreements with neighboring jurisdictions and address communication, mutual aid, and other cross-jurisdictional needs.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Ensure existence of a demographic profile of the community (including special needs populations and language minorities) and assure that the needs of these populations are addressed in the operation plan.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Address provision of psychosocial support services for the community, including parents and their families, and those affected by community containment procedures in the plan (see Supplement 11).
<p>December 2, 2015 Version 4.4</p>			



## Pandemic Influenza Checklists

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- State and Local
- Business
- Preschool
- Schools (K-12)
- Colleges & Universities
- Faith-based & Community Organizations
- Physician Offices and Ambulatory Care
- Home Health
- Emergency Medical Services
- Travel Industry



# PANDEMIC PLANNING

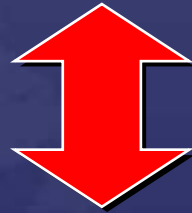
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## Health Protection at the Frontline: Local, County, and State Public Health Departments and the Indian Health Service



## Seasonal Influenza Preparedness



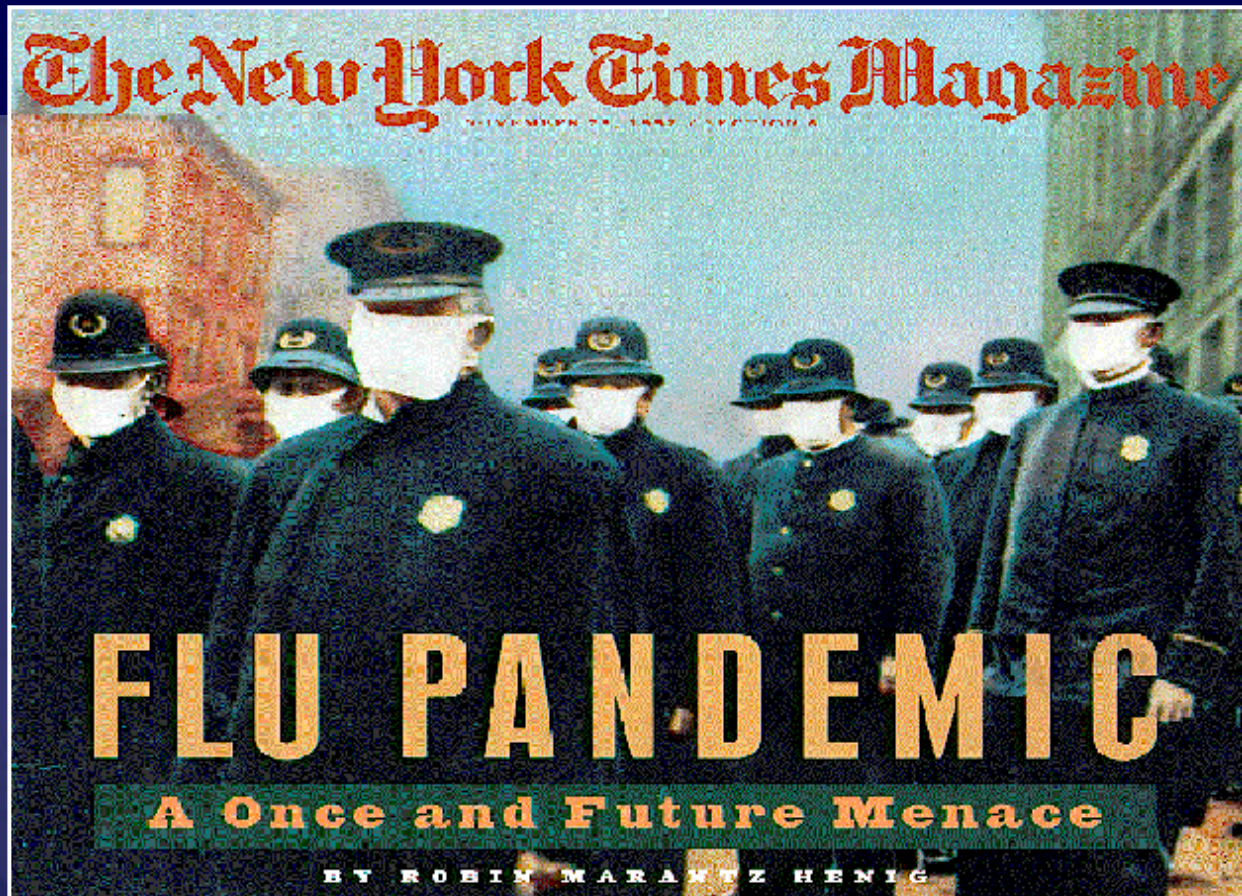
## Pandemic Influenza Preparedness

Preparing for a pandemic now will mean:

- Lives saved during seasonal influenza
  - Modern seasonal influenza vaccine for all who need it
  - New antiviral drugs for prevention and treatment
- Community health protection from other threats
- Peace of mind



**Complacency is the enemy of health protection!**



[www.pandemicflu.gov](http://www.pandemicflu.gov)